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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,834	12/13/2001	Hang Zhang	7000-105	1048
27820 7590 11/28/2007 WITHROW & TERRANOVA, P.L.L.C. 100 REGENCY FOREST DRIVE SUITE 160 CARY, NC 27518			EXAMINER HALIYUR, VENKATESH N	
			ART UNIT 2619	PAPER NUMBER
			MAIL DATE 11/28/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/020,834

Applicant(s)

ZHANG ET AL.

Examiner

Venkatesh Haliyur

Art Unit

2619

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.138(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 September 2007.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 (claims 6, 15, 24 canceled) is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-14, 16-23, 25-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment, filed on 09/04/2007, with respect to the rejection(s) of claim(s) 1-5, 7-14, 16-23 and 25-30 have been fully considered and is ineffective to overcome Lee et al and Chang et al references. Rejection follows.
2. Claims 1-5, 7-14, 16-23 and 25-30 are pending in the application. Claims 6, 15, 24 are canceled.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 4,5,9,13,14, 22,27 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The dependent claims 4,5,9,13,14, 22,27 recite the claim limitations such as "data or a link control layer frame to retransmit", "data or an RLP frame to retransmit" and "data or link control layer frame", but the independent claims do

not recite the limitation "link control layer frame" or "an RLP frame" and recites the limitations as "frames or data" and therefore fails to particularly point out and distinctly claim the subject matter which applicant regards as the invention and there is insufficient antecedent basis for these claim limitations.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-3,5,7-12,14,16-21,23 and 25-27 are rejected under 35 U.S.C. 102(e) as anticipated by Chang et al [US Pat 6,895,010].

Regarding claims 1,10,19, Chang et al in the invention of "Apparatus and Method for Transmitting and Receiving Data According to Radio Link Protocol in a Mobile Communications Systems" disclosed method for initiating retransmission of frames **(Figs, 2-5)** comprising: a) detecting a failed attempt to transmit a frame at a physical layer **(mux/demux controller and physical layer, items 140,150 of Fig 4)** of a receiver **(receiving RLP processor, item 131 of Fig 4, col 6, lines 37-58)**; b) sending

a message from the physical layer of the receiver to a link control layer (**RLP layer, item 310 of Fig 4**) of the receiver to indicate the failed attempt to transmit a frame has been detected (**col 6, lines 12-36**); and c) upon receipt of the message, sending a retransmission message from the link control layer of the receiver (**col 3, lines 13-28, col 4, lines 33-40**), the retransmission message configured to cause a sender to retransmit data associated with the frame (**col 4, lines 41-51**).

Regarding claims 2-3,11-12,20-21, Chang et al disclosed that detecting step further comprises receiving at least a portion of the frame and determining at least a portion of the data associated with the frame is either unrecoverable or corrupted (**missing or incomplete data frame, col 4, lines 64-67, col 5, lines 1-2**) and wherein the link control layer implements a Radio Link Protocol (**RLP**) using an RLP entity associated with an application (**col 5, lines 9-16**).

Regarding claims 5,14,23, Chang et al disclosed that the frame is a physical layer frame, the method further comprising: a) receiving the retransmission message at a link control layer of the sender (**col 7, lines 19-21**); b) determining data or a link control layer frame to retransmit (**identify frame sequence number, col 7, lines 22-25**); and c) retransmitting the data or link control layer frame requiring retransmission (**col 7, lines 31-36**).

Regarding claims 7, 16, 25, Chang et al disclosed that the retransmission message is an acknowledgement message (**col 8, lines, lines 6-20**).

Regarding claims 8,17,26, Chang et al disclosed that the frame is a physical layer frame, the method further comprising: a) sending link control layer frames from the

sender over a wireless communication channel to the receiver via physical layer frames from the sender (**Fig 2, col 2, lines 60-67, col 16, lines 29-61**); b) setting a timer upon transmitting each of the link control layer frames from the sender; and c) resetting the timer upon confirmation the link control layer frames were received or a subsequent link control layer frame is sent (**col 19, lines 1-32**).

Regarding claims 9,18,27, Chang et al disclosed that when a timer for one of the link control layer (**RLP**) frames expires (**elapses**), sending one of the group consisting of a request message to the link control layer of the receiver from the sender requesting identification of a last portion of data (**col 19, 1-9**) or link control layer frame received by the link control layer of the receiver and data or a link control layer frame associated with the timer expiration (**col 19, lines 14-25**).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang et al [US Pat 6,895,010] in view of Lee et al [US Pat 6,718,500].

Regarding claims 28-30, Chang et al in the invention of "Apparatus and Method for Transmitting and Receiving Data According to Radio Link Protocol in a Mobile Communications Systems" disclosed method of detecting a failed attempt to transmit a frame at a physical layer (**mux/demux controller and physical layer, items 140,150 of Fig 4**) of a receiver (**receiving RLP processor, item 131 of Fig 4, col 6, lines 37-58**), but fails to disclose that the message is a primitive indication of a failed attempt to receive frames in the physical layer.

However, Lee et al in the invention "RLP Communication Device and Method for Mobile Communication System" disclosed a method to receive primitive indicative of a failed attempt to receive frames in the physical layer (**col 2, lines 38-65, col 4, lines 31-67**)

Therefore it would have been obvious for one of ordinary skill in the art to use the method of receiving an indication in RLP layer of a failed attempt to receive frames as in the physical layer as taught by Lee et al to include in the system of Chang et al to receive a message in RLP layer which is a primitive indication of a failed attempt to receive frames in the physical layer. One is motivated as such in order to provide primitive indication of a failed attempt to receive frames in the physical layer of the receiving side to reduce delays associated with retransmission and receipt of frames in the RLP communication device for mobile communication systems.

Allowable Subject Matter

9. Claims 4, 13, 22, objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and the claim rejections under 35 U.S.C 112 2nd paragraph made in this office action is overcome.

Response to Arguments

10. Applicant's argument's, see remarks filed on 09/04/2007 with respect to rejection of claims 1-3,5,7-12,14,16-21,23,25-27, have been fully considered but they are not persuasive.

With regards to the applicant's argument that Chang et al. does not teach detecting a failed attempt to transmit a frame at a physical layer of a receiver, and then sending a message from the physical layer of the receiver to a link control layer of the receiver to indicate the failed attempt to transmit a frame has been detected and "upon receipt of the message, sending a retransmission message from the link control layer of the receiver" and "receiving and sending messages at the link control layer of the receiver". Examiner respectfully traverses the applicant's wherein Chang et al disclosed transmitting side, receiving side and the exchange of messages between the transmitting RLP side and receiving RLP side communicating at RLP level with the physical layers (**Chang et al, col 3, lines 13-28, Figs 2-3**) and similarly Lee et al further disclosed processing of RLP frames in RLP layer (**Lee et al, col 3, lines 13-26**) and

communicating with the physical layer for both sending and receiving messages (**Lee et al, col 4, lines 31-67**).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. Both Lee et al and Chang et al. disclosed their inventions in the related field of applicant's invention of transmission, reception, retransmission and processing of RLP frames in mobile communication systems and therefore a broad interpretation of the claim limitations has been made with the references.

12. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies on ARQ for RLP retransmissions in para 0016-0018, page 4 of the specification are not recited in the rejected independent claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

Conclusion

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

14. Any inquiry concerning this communication or earlier communications should be directed to the attention to Venkatesh Haliyur whose phone number is 571-272-8616. The examiner can normally be reached on Monday-Friday from 9:00AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached @ (571)-272-7884. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (571)-272-2600 or fax to 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you

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have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197(toll-free).

Venkatesh Haliyur

Patent Examiner

WH
11/19/07

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SUPERVISORY PATENT EXAMINER

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